

StringView®

User Manual

Version 3 for Windows

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Contents

1. Introduction	1-1
What is StringView?	1-1
Terminology	1-2
2. Installing StringView	2-1
What you need.....	2-1
Installing StringView.....	2-2
Pre installation checks	2-2
To install StringView	2-2
Copy Protection.....	2-4
3. Quick Start Guide	3-1
Quick Start Instructions.....	3-1
Super Quick Start Instructions.....	3-7
4. Drawing a Well	4-1
Starting a Well Diagram.....	4-1
Using Well Wizard.....	4-1
Starting from Scratch.....	4-3
Drawing a Well Diagram.....	4-4
Working with Paths	4-4
Working with Strings	4-5
Working with Elements.....	4-7
Copying the Well Diagram.....	4-9
Saving the Well Diagram	4-9
5. Backgrounds	5-1
Adding Backgrounds	5-2
Modifying Backgrounds.....	5-4
6. Annotations	6-1
Types of Annotation.....	6-1
Adding Annotations	6-2
To Add an Annotation.....	6-2
To Add a Table	6-4
To Add a Picture	6-6
To Add a Blow Up.....	6-7
Modifying Annotations	6-7
To move an Annotation.....	6-7
To resize an Annotation	6-7
To delete an Annotation	6-7
7. Element Library	7-1
Working with the Element Library.....	7-1
Searching the Element Library.....	7-2
Import/Export Elements with the Element Library.....	7-5

8. Special Techniques	8-1
Advanced Features	8-1
Properties	8-2
Preferences	8-5
Multiple Paths	8-6
Multiple Casings and Tubing Strings	8-8
Junctions.....	8-9
Save as Template.....	8-10
9. Customizing StringView	9-1
Creating a Company Image	9-1
Create Your Own Layout Template	9-1
Create Your Own Elements.....	9-1
10. Element Editor	10-1
Introduction.....	10-1
Starting the Element Editor	10-2
Using the Element Editor	10-6
Element Views	10-6
Drawing Tools.....	10-6
Selecting Element objects	10-7
Editing Element objects	10-7
Element object styles.....	10-11
Aspect Ratio.....	10-12
Filling enclosed areas	10-12
Copying Element objects.....	10-13
Element layout order	10-13
Guide lines, grids and handles.....	10-13
Preferences	10-14
11. Online Features	11-1
Updates Online.....	11-1
Internet Connections	11-1
Appendix A. Sample Elements	A-1
Appendix B. Sample Strings.....	B-1
Appendix C. Sample Reports	C-1
Appendix D. Sample Backgrounds	D-1
Appendix E. Sample Templates	E-1
Appendix F. Menu Structure	F-1
Appendix G. Frequently Asked Questions	G-1
Appendix H. Trouble shooting.....	H-1
Appendix J. Contacting AnTech.....	J-1

CHAPTER 1

Introduction

What is StringView?

Terminology

What is StringView?

StringView is a graphics software program for creating oil well diagrams.

It is the only program that allows you to draw multi-lateral and deviated wells in a way that is simply not possible with any other software.

Add to this the benefits of copying and pasting diagrams into other applications or emailing them to colleagues and you have a very user-friendly package!

All you need is a PC running Windows ME, XP, 2000 or NT4, preferably connected to the web. You can define the well trajectory with a simple series of mouse clicks, then superimpose pre-drawn Elements to create the desired diagram. The program intelligently plots the intersections between branches of a multilateral well to give the correct visual appearance.

Diagram Complexity Limited Only By Your Imagination

The vector graphics, shading, backgrounds and intelligent multi-lateral drawing capabilities create a well diagram that is visually stunning.

In addition, you can produce these diagrams at a reduced cost, in much less time. Because StringView updates are available on the Internet and can be set to update automatically, you can rest assured that you're always using the most up-to-date program.

IMPORTANT NOTE: We want StringView to be the BEST Well Diagramming software available. Please let us know how you would like it improved or if you come across any bugs. Contact StringView Technical Support: support@stringview.com

Terminology

StringView uses the following program specific terminology:

Terminology	Definition
Element	A pictorial representation of a Well String component, e.g. tubing, casing, packer, BHP etc. These are stored in the Library.
Library	A collection of Elements. NOTE: If you don't see the Element you need, you can either create one yourself or contact StringView Technical Support: sales@stringview.com
String	A region (set relative to the Path) defining the position and width of a Well String.
Path	A straight or deviated line giving a representation of the Well alignment.

CHAPTER 2

Installing StringView

What you need

Installing StringView

Copy Protection Dongle

What you need

StringView will not operate fully without a hardware lock “Dongle”. This is supplied with the StringView software. Without the dongle, StringView software will run in Evaluation mode and the files you print or save will have a watermark added. Please note that this dongle plugs into the parallel (or printer) port on your computer.

1. We recommend that you have the following equipment and supplies;
 - 400 MHz Pentium II class with 96Mb of RAM.
 - SVGA graphics card capable of 1024 x 768 @ 256 colors and a minimum of 4Mb Video RAM.
 - 600 x 600 dpi laser printer or color inkjet printer supported by windows.
2. You will also require;
 - SVGA monitor or better.
 - Windows ME, Windows 2000, Windows XP, or Windows NT4
 - Hard disk with at least 40Mb of free disk space.
 - StringView for Windows installation CD.
 - Mouse or other pointing device supported by Windows.
 - Access to the internet during installation.

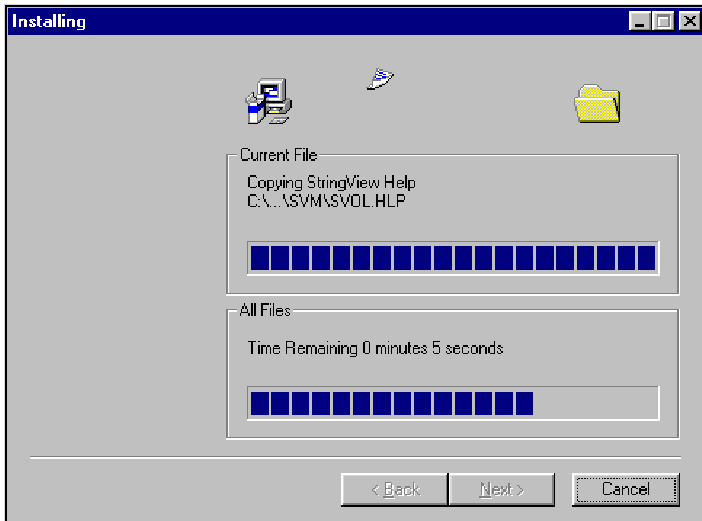
Installing StringView

Pre-installation checks

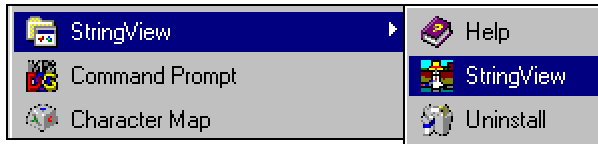
- Before you install StringView, close any other applications that may be running.
- Ensure that you are connected to the internet.
- The installation routine writes some files from both the CD and from the StringView web site to your Windows/System directory. Make sure that your Windows/System directory is not write protected (this may be the case on some Network setups).

To install StringView using CD

1. The copy protection mechanism (“dongle”) should be fitted before installing StringView. If it is not, it will have to be fitted before running StringView. See the section “Copy Protection Dongle” later in this chapter.
2. For Win ME / Win 2000 / Win XP / Win NT4 users select Run from the Start menu. Please note: if your CD drive is configured correctly then StringView will Auto Install.
3. In the Command Line field of the Run window, type the location you’re installing from (for example type d:\SVMMSSetup.exe if you are installing from drive D). Click OK to continue.
4. The StringView installation routine installs the executable files and sample data. (If for some reason you are installing for a second time the installation routine will not overwrite existing data files).



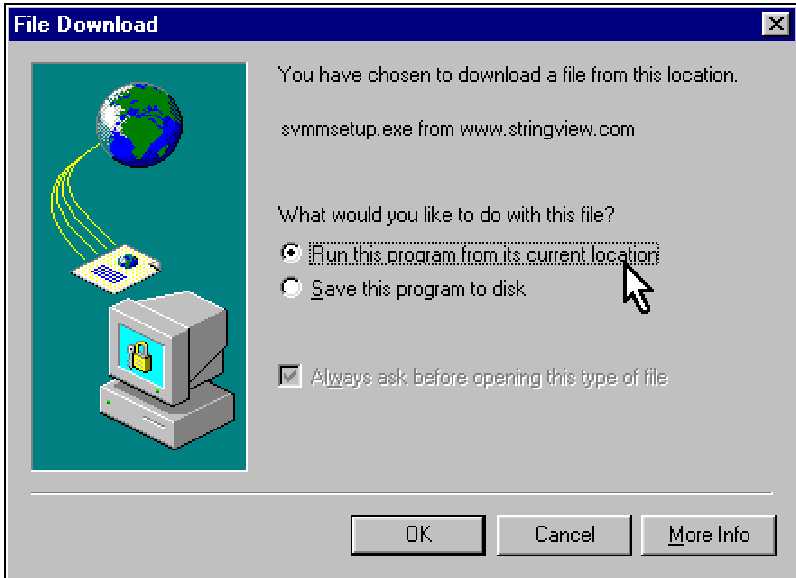
5. An entry will be set up under **Start : Programs**, and a StringView Program Group will be created.



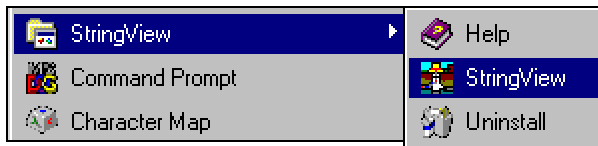
6. We suggest that, on first occasion you run StringView, you perform an Online Update to ensure that you are running the most up to date code, benefiting from all bug fixes and feature enhancements to date. Select **Online : Update** from the menu. A check is made to see whether you are running the latest code. If newer versions of any modules are found on the web, you will have the option to download these newer modules before the application runs any further.

Installing StringView online

1. The copy protection mechanism (“dongle”) should be fitted before installing StringView. If it is not, it will have to be fitted before running StringView. See the section “Copy Protection Dongle” later in this chapter.
2. Go to www.stringview.com and follow the links to the StringView Install.



3. In the File Download window, select “Run this program from its current location”. Click OK to continue.
4. An entry will be set up under **Start : Programs**, and a StringView Program Group will be created.



5. The StringView installation routine installs the executable files and sample data. (If for some reason you are installing for a second time the installation routine will not overwrite existing data files).

Copy Protection Dongle

Your StringView software is protected with a hardware lock called a “Dongle”.

The Dongle is a device which plugs into the parallel (printer) port of your computer but it will not prevent you from printing or accessing any other device you may have connected to that port.

The StringView software will search your parallel port looking for the dongle. If it cannot be found an Evaluation version of the software will run and all files you print or save will have a watermark added.

You can install StringView on multiple machines. However, you will need to move the dongle to run StringView in Full mode on the other machines.

To fit the dongle

- Shut down your computer and peripherals.
- If fitted, remove any peripheral cable (e.g. Printer) from your parallel port.
- Plug the dongle into the parallel port and make sure its screws are fully tightened.
- If you had removed a peripheral cable, plug it into the back of the dongle and tighten its screws.
- Start up your computer.

WARNING: It is your responsibility to keep track of your hardware dongle. AnTech can accept no responsibility for lost dongles. The cost of replacement for your Dongle is the current price of a copy of StringView.

CHAPTER 3


Quick Start Guide

Quick Start Instructions

Super Quick Start Instructions

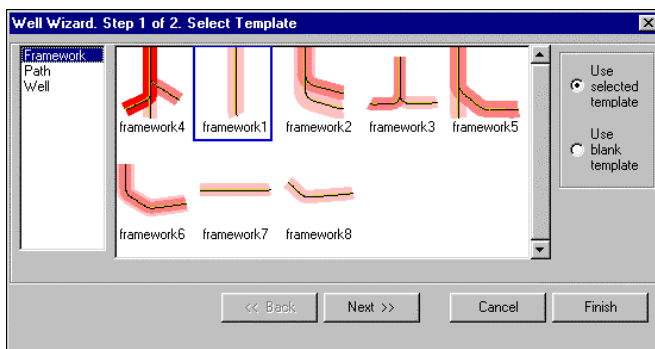
Quick Start Instructions

1. Start Program

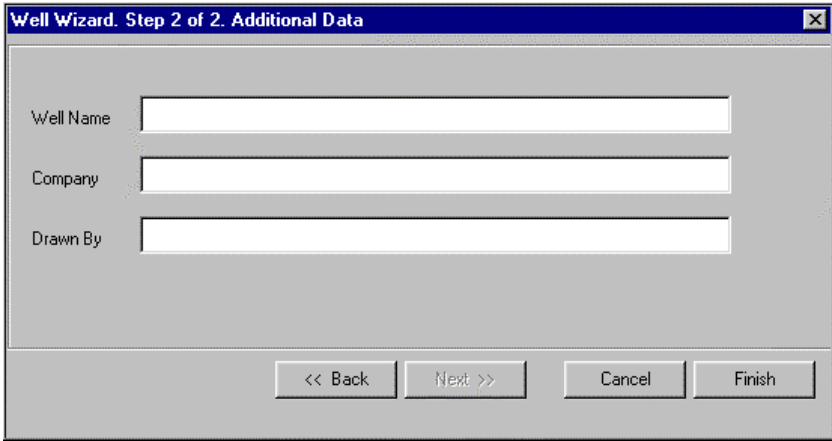
For those of you who want to get drawing quickly, click on the StringView icon on your Desktop  and follow these 6 simple steps to building a Well Diagram.

2. Select Template

- In the **Well Wizard** select a Framework and click on **Next**.



- Fill in the Well Details and click **Finish**.



Well Wizard. Step 2 of 2. Additional Data

Well Name

Company

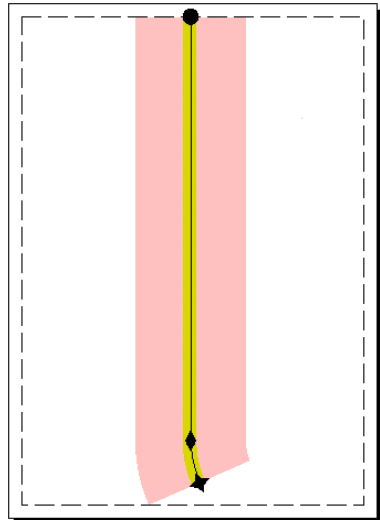
Drawn By

<< Back Next >> Cancel Finish

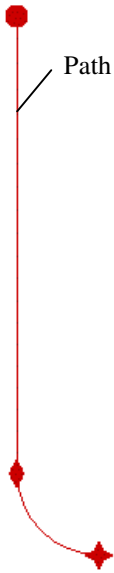
3. Setup Page

The quickest way to set up your page around the Well Diagram is to click on **File : Print Setup**. Check your printer name and page size are correct, then click **OK**.

Your Well Diagram will then be fitted centrally to fit your size of page.




4. Edit Path




Extend a Path

You can extend a Path by alternate curved and straight sections:


- Select the Path by left clicking above one of the section end markers — circle, diamond or star (the Path turns red).
- Click on  in the menu or right click on one of the section end markers and select **Extend Path** from the drop down menu. An extension from the end of the Path will automatically appear.
- Position the cursor at the new end point of the Path, and left click to place.

Trim a Path

You can shorten a Path by removing the final section:

- Select the Path by left clicking above one of the section end markers — circle, diamond or star (the Path turns red).
- Click on  in the menu or right click on one of the section end markers and select **Trim Path** from the drop down menu. The final section of the Path will be removed.

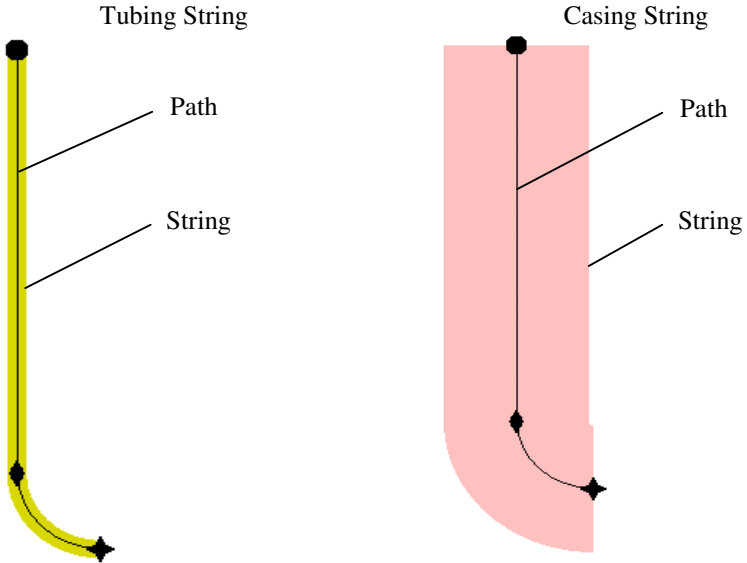
To add a Path

- Click on  and position your cursor at the start point of your Path.
- Click and drag the red diamond to the end of the straight section.
- Extend the Path, if required, as described above.

5. Add String

Add a **String** to the Path to set the width and relative position of the Well String.

NOTE: There are two types of String:



Click on the relevant button

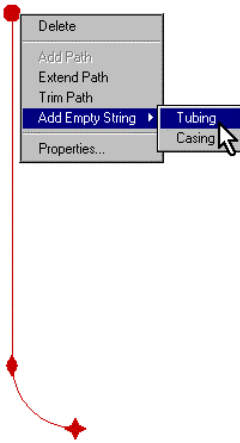


Add Tubing String



Add Casing String

or

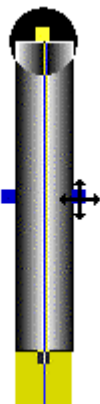
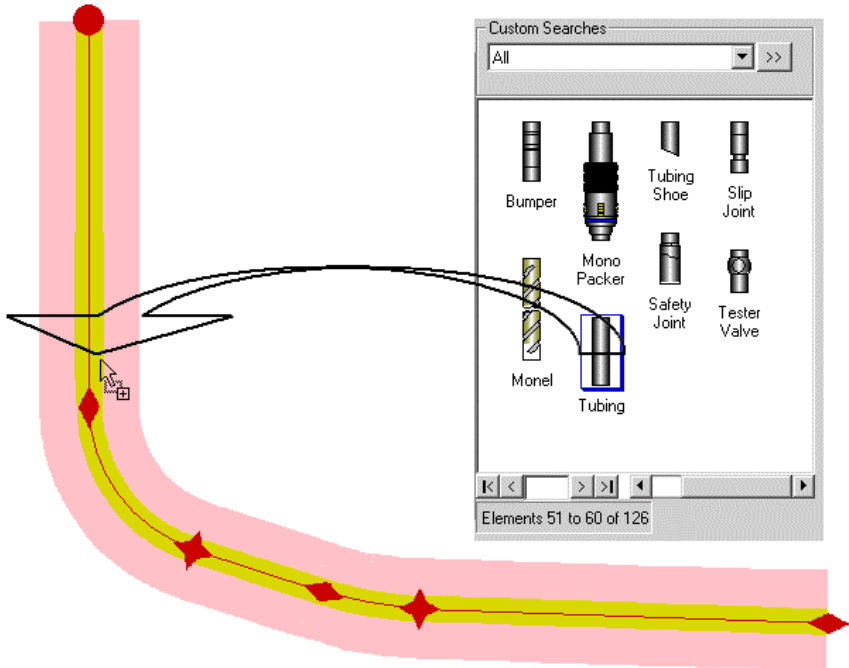


- Right click on a section end marker.
- Select **Add Empty String**.
- Select **Casing** or **Tubing**.

6. Add Elements

The Element Library contains Elements representing the more commonly used components found within an oil well. You can navigate through the Library using the scroll bars.

- Drag and Drop **Elements** into the String.



NOTE: The Elements can be resized and stretched by clicking and dragging on their handles.

7. Copy String Diagram

When your String Diagram is complete and you wish to copy it into your documentation. Copy it to the Windows clipboard by using **Edit : Copy**. The diagram may then be pasted into another application such as Microsoft Word.

This Quick Start section gives you only the very basics to get started. There are many more features to StringView. These are detailed in the following chapters.

Super Quick Start Instructions

There is an even quicker way to get started for people in a real hurry! Simply drag an Element into the drawing area and it will automatically generate a Path and Region. This “super-quick-start” feature can, however, only be used once at the start of a new drawing. All additional Paths and Strings will have to be added manually.

CHAPTER 4

Drawing a Well

Starting a Well Diagram

Drawing a Well Diagram

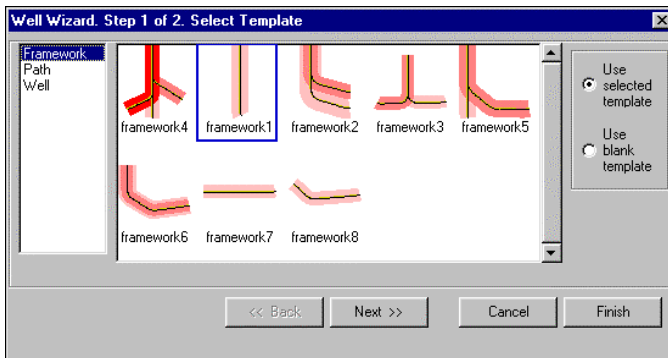
Starting a Well Diagram

There are two ways to start a Well Diagram:

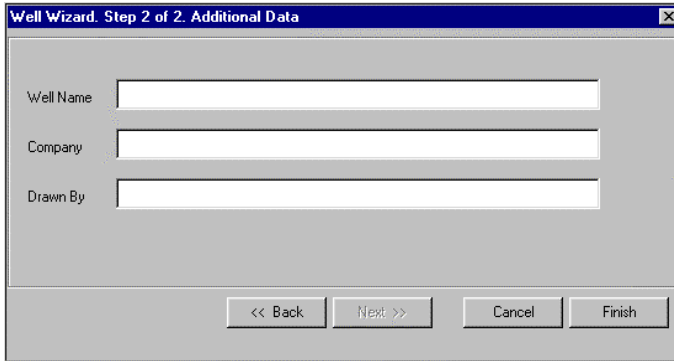
1. Using an existing Template from the **Well Wizard**, or
2. Starting from scratch with a blank sheet.

Using Well Wizard

You can use the **Well Wizard** to save time creating many common types of Well Diagrams. The Well Wizard can be started clicking **File : New**.



- Click on **Use selected template**.
- Select what type of Template you require (Framework, Path or Well).
- Click on the Template you want to work on.
- Click **Next >>**.



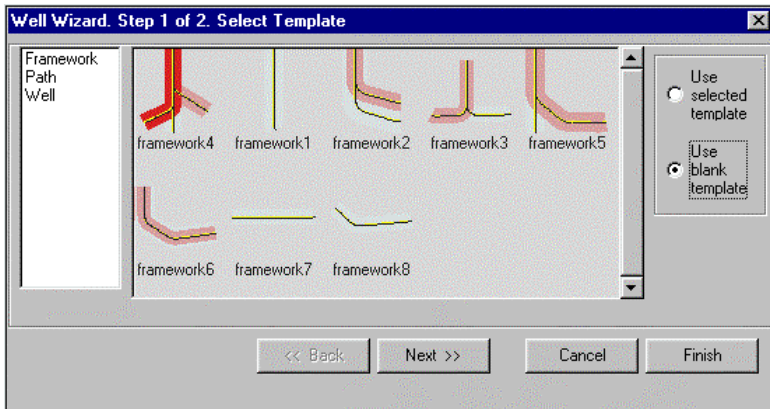
The image shows a software dialog box titled "Well Wizard, Step 2 of 2. Additional Data". It features three text input fields for "Well Name", "Company", and "Drawn By". At the bottom, there are four buttons: "<< Back", "Next >>", "Cancel", and "Finish".

- Fill in the Well Details and click **Finish**.

Information on how to work with Paths, Strings and Elements is given later in this chapter.

Starting from Scratch

If you prefer not to use the Templates:




- Select **Use blank template**.
- Click **Next >>**.
- Now fill in the Well Details and click **Finish**.

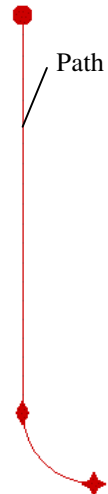
Drawing a Well Diagram

Working with Paths

A **Path** defines the alignment of the Well String. There can be more than one Path in a Well. Paths are made up of alternate curved and straight sections. A Well Diagram has to be made up of at least one **Path** and one **String**.


To add a Path

- Click on  or click **Build : Add Path** and position your cursor at the start point of your Path.
- Click and drag the red diamond to the end of the straight section.



To extend a Path

You can extend this Path by alternate curved and straight sections:

- Select the Path by left clicking on one of the section end markers — circle, diamond or star (the Path turns red).
- Click on  in the menu or right click on one of the section end markers and select **Extend Path** from the drop down menu. An extension from the end of the Path will automatically appear.
- Position the cursor at the new end point of the Path, and left click to place.

To move a Path

Any of the section end markers can be used to move a Path by dragging and dropping in the following ways:

- Circle — At the top of the Well — Moves the entire Path.
- Diamond — At the end of a straight section — Extends the straight section.
- Star — At the end of a curved section — Repositions the end of the section.

To delete a Path

You can delete a Path in two different ways:

Either:

- Select the Path by left clicking on one of the section end markers — circle, diamond or star (the Path turns red).

- Press the **Delete** key.

Or:

- Right click the Path on one of the section end markers — circle, diamond or star — and select **Delete** from the pop-up menu.

NOTE: If you delete a Path which has Strings attached, the Strings and their Elements will be deleted also.

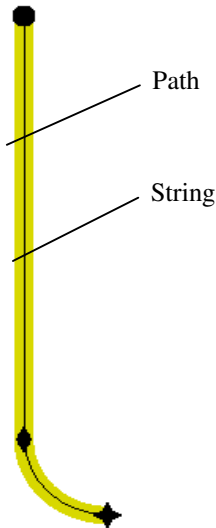
Working with Strings

To add a String

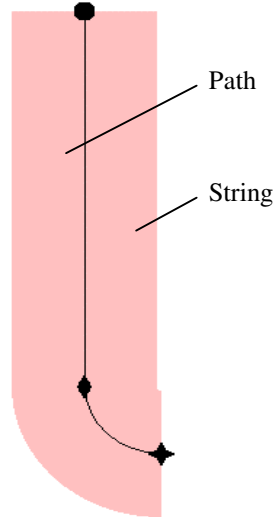
Add a **String** to the Path to set the width and relative position of the Well String.

NOTE: There are two types of String:

Tubing String



Casing String



To add a String, click on the relevant button

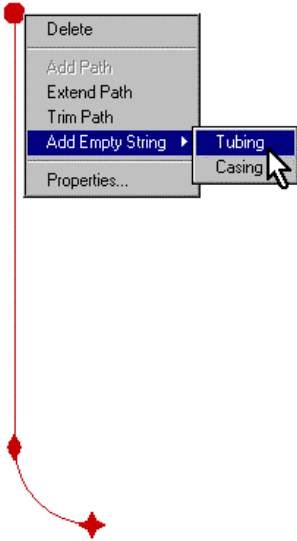


Add Tubing String



Add Casing String

or



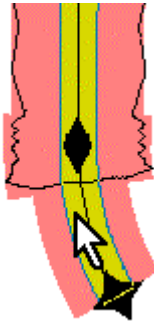
- Right click on a section end marker.
- Select **Add Empty String**.
- Select **Casing** or **Tubing**.

NOTE:

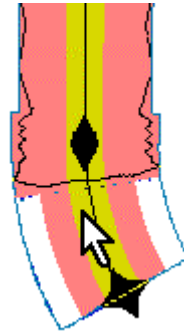
- More than one String can be added to a Path. This feature, for example, enables multiple casings to be added to the Well Diagram.

To select a String

Successive mouse clicks at the empty bottom end of the String has the effect of selecting the Strings which pass through that point in rotation. This is useful if you are having difficulty in selecting a particular String.



Tubing String selected



Casing String selected

To move a String

Strings can be moved relative to their Path by click and hold, then dragging.

To delete a String

You can delete a String in two different ways:

Either:

- Select the String as described above.
- Press the **Delete** key.

Or:

- Right click the String and select **Delete** from the pop-up menu.

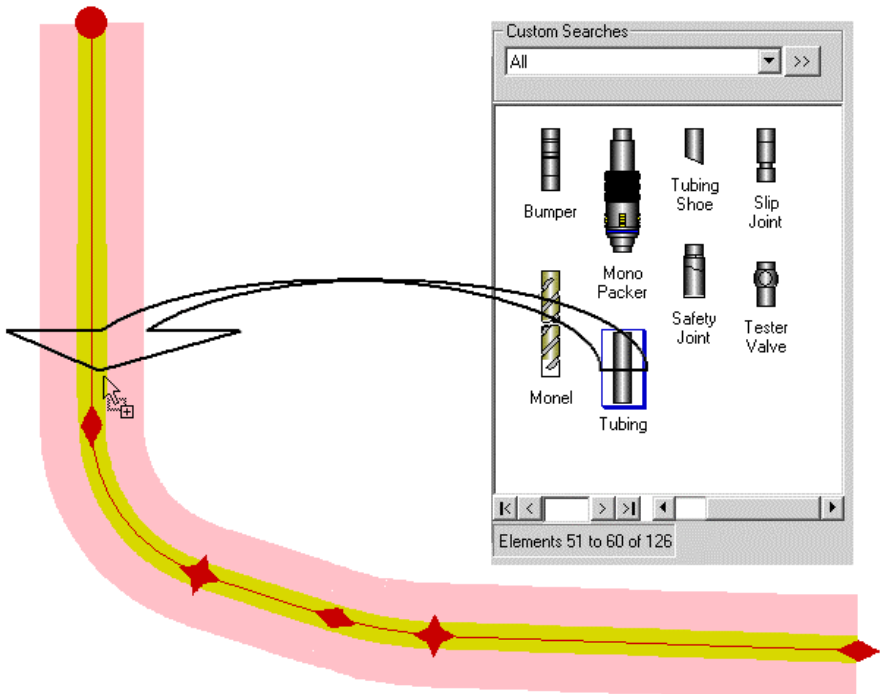
NOTE: If you delete a String which has Elements on it, the Elements will be deleted also.

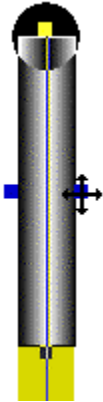
Working with Elements

The Element **Library** contains **Elements** representing the more commonly used components found within an oil well. You can navigate through the **Library** using the scroll bars.

- Drag and Drop **Elements** into the String.

The String will be highlighted with blue edging to indicate on which String the Element will drop.





NOTE:

- The Elements can be resized and stretched by clicking and dragging on their handles.
- To keep the Path length the same, hold down the **Shift** button while resizing the Element.
- Extra Elements can be inserted into an existing String. Drag and drop so that the new Element highlights an existing Element. The new Element will be placed below the highlighted one.
- The Element at the top of a String can be resized to start at any point along the Path (You may need to deselect **View : Paths** to be able to drag the topmost handle under the Path start circle).

Copying the Well Diagram

When your Well Diagram is complete and you wish to insert it into your documentation, copy it to the Windows clipboard by using **Edit : Copy**. The diagram may then be pasted into another application such as Microsoft Word.

NOTE: The resolution of the bitmap print can be set using **Edit : Preferences** and selecting **Image Control**.

Saving the Well Diagram

Your Well Diagram you can be saved by clicking on **File : Save As**. Note that it is saved as a .svw (StringView Well) file.

You may also save your Well Diagram as a Template. See “Save As Template” in Chapter 8, Special Techniques.

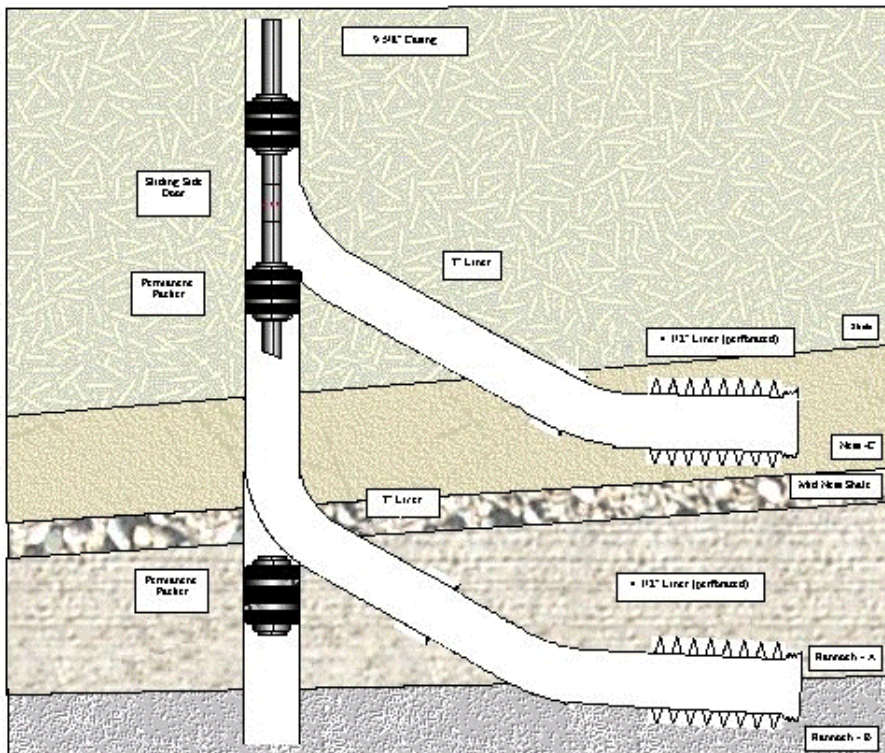
CHAPTER 5

Backgrounds

Adding Backgrounds

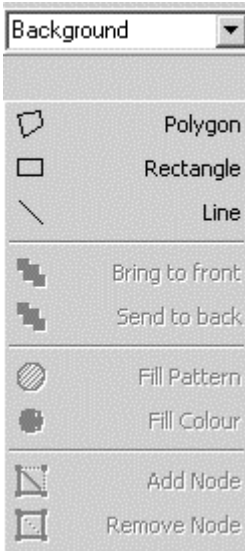
Modifying Backgrounds

Backgrounds can be added to your Well Diagram to provide a corporate style or a representation of geological strata, using fill patterns. The resulting Well Diagram is greatly enhanced, and can provide much more information on the Well.

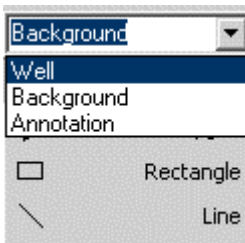


Adding Backgrounds

To start the Background Editor click **Layout : Edit Background**. The Background Editor toolbar appears.



When you have finished editing the background, the Well can be re-selected from the drop-down box.



To draw a line

- Click the Line Tool button. The cursor will become a cross.
- Click on start point of line and drag to finish point.
- Release mouse button.

To draw a rectangle

- Click the Rectangle Tool button. The cursor will become a cross.
- Click on start point of rectangle and drag to finish point.
- Release mouse button.

To draw a polygon


- Click the Polygon Tool button. The cursor will become a cross.
- Click on start point of polygon.
- Move mouse and click on next point.
- Repeat for all points and right click to close polygon.

Modifying Backgrounds


To select a shape

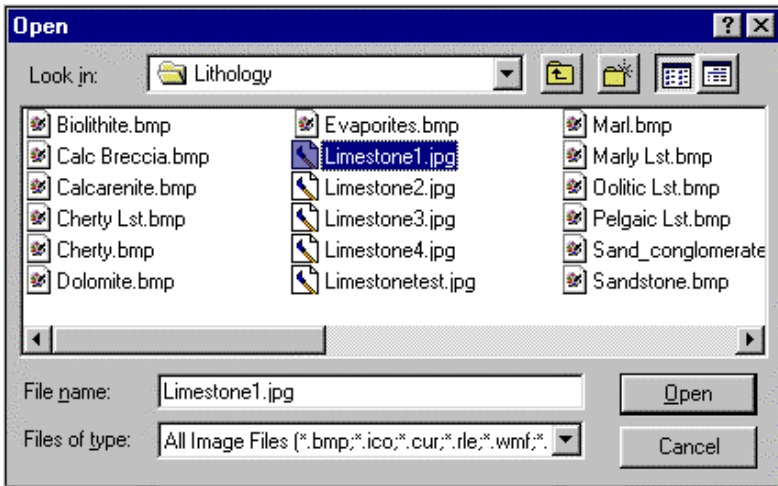
- Click on or within the shape. The shape is highlighted with a bold outline.

To fill a shape with a solid colour

- Select a rectangle or polygon by clicking within it.
- Click the Fill Colour button .
- Select the required colour from the palette.

To fill a shape with a pattern

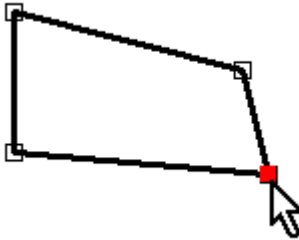
- Select a rectangle or polygon by clicking within it.
- Click the Pattern Fill button . A list of fill patterns will appear.





- Select the required fill pattern file from the list.



To edit a shape

- Select the shape.
- Click on a handle and drag it to a new position.
- Hold the mouse down within the shape and drag the whole shape to a new position.




Shapes can be brought to the front (of other shapes) or sent to the back using the **Bring to Front**  or **Send to Back**  buttons. The background will nonetheless remain behind the Well Diagram.

To add/remove nodes on a polygon

- Select the polygon by clicking within it.
- Select a handle and click the Add Node button  or Remove Node button .

To delete a shape

- Select the shape.
- Click the Delete button  on the Background Editor toolbar.

CHAPTER 6

Annotations

Types of Annotation


Adding Annotations

Modifying Annotations

Types of Annotation

There are several types of Annotations that can be added to your Well Diagram:

- Table — a table of any kind of data.

Company: Any Oil Inc	
1	Name: Drill Pipe
2	Name: Stabiliser
3	Name: Heavy Weight Drill Pipe
4	Name: Drill Collar
5	Name: Drill Bit

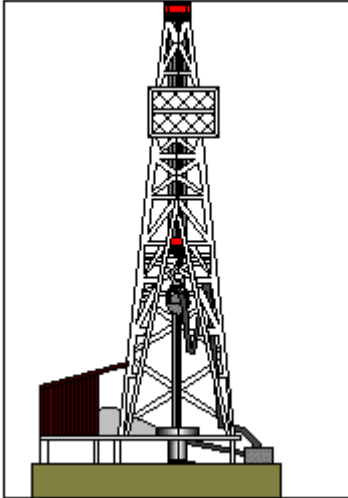
- Annotation — a simple box with text in it.

**5½" Liner - 20#
@4105m MD /
2507m TVD**

- Picture — a graphic obtained from a file.



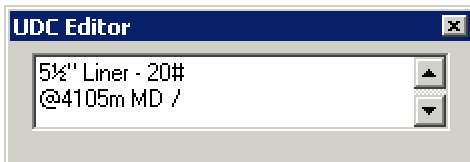
- Blow Up — a graphic created from any object on the Well Diagram.



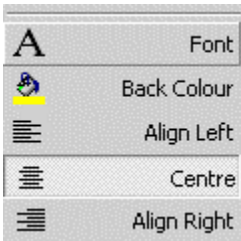
Adding Annotations

To Add an Annotation

- Click **Layout : Insert : Annotation**. The cursor will become a cross.
- Click on the start point of the Annotation and drag to the finish point.
- Enter text via the Editor window.



The font, size, style and alignment of the text can be edited using the buttons on the annotation toolbar. The background colour of the cell can also be changed.

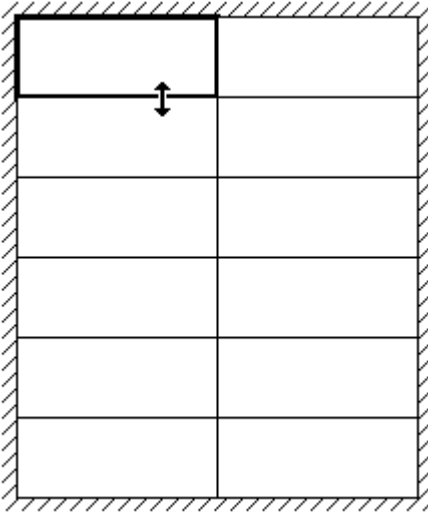


The width and height of cells may be changed by dragging the bottom or right border while the editor window is open. (Rows and columns may also be added, in effect converting this into a table.)

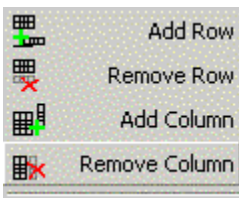


To Add a Table

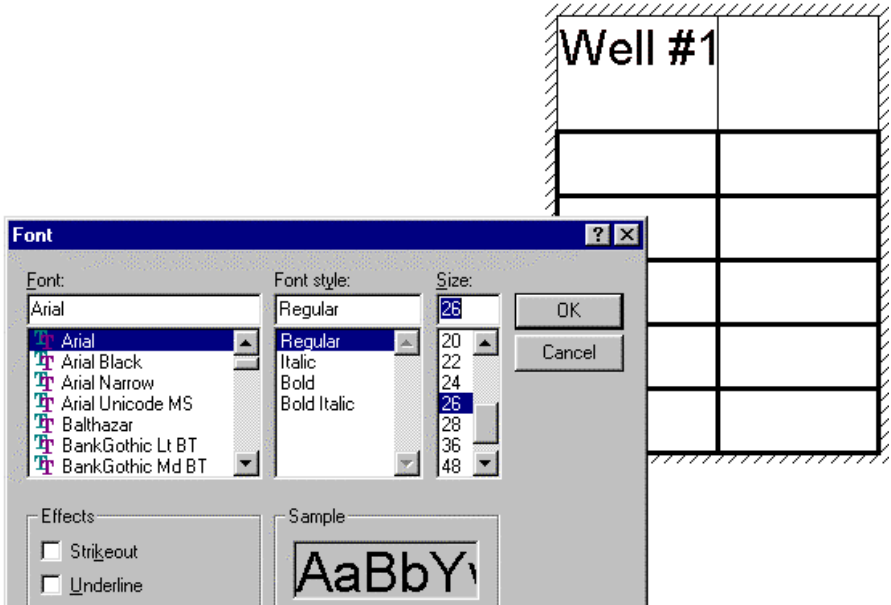
- Click **Layout : Insert : Table**. The cursor will become a cross.
- Click on the start point of the Table and drag to the finish point.
- Enter text in the Table cells by clicking within the cell and typing in the Editor window.
- The width and height of cells may be changed by dragging the bottom or right border while the Editor window is open.




Rows and columns may also be added or removed. To remove a column, select a cell in the column you wish to delete, by clicking in it, then click the Remove Column button.





Multiple cells may be selected by holding down the shift key and clicking in the required cells. The changes made affect each of the selected cells and any text subsequently typed in them.




To Add a Picture

- Click **Layout : Insert : Picture**. The cursor will become a cross.
- Click on the start point of the Picture and drag to the finish point.
- Select your image by clicking on the Select Picture button .

To add a Picture within a table:

- Click within the cell and then click the Picture button .
- Select your image by clicking on the Select Picture button .

Well #1	
Field L42	
1	Tubing
2	Packer
3	Tubing
4	Mule Shoe

To Add a Blow Up

- Select the String or Element you wish to appear in the Blow Up.
- Click **Layout : Insert : Blow Up**. The cursor will become a cross.
- Click on the start point of the Blow Up and drag to the finish point.
- Your selected object will be shown within the box you have just drawn.

Modifying Annotations


To move an Annotation

- Click once within the Annotation.
- Hold the mouse down within the Annotation and drag to new position.

To resize an Annotation

- Double-click within the Annotation. The Editor window will appear.
- The width and height of cells may be changed by dragging the bottom or right border while the editor window is open.

To delete an Annotation

- Click once within the Annotation.
- Press the **Delete** button on the keyboard or  on the toolbar.

CHAPTER 7

Element Library

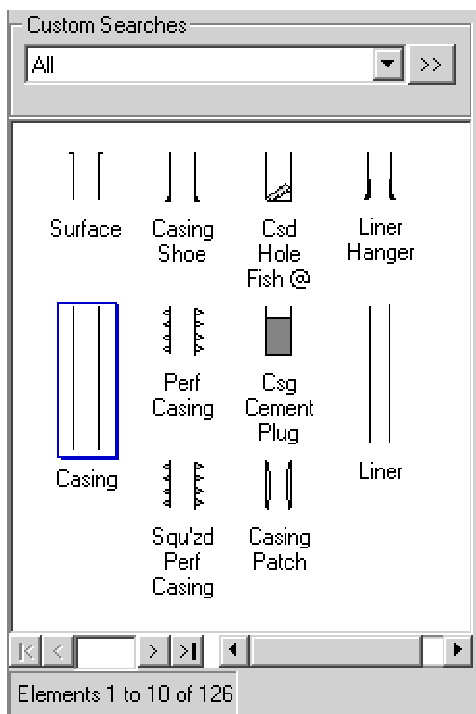
Working with the Element Library

Searching the Element Library

Import/Export Elements with the Element Library

You have learned how String Groups are designed by dragging Elements from the Element Library. All Elements in an Element Library are available for immediate use.

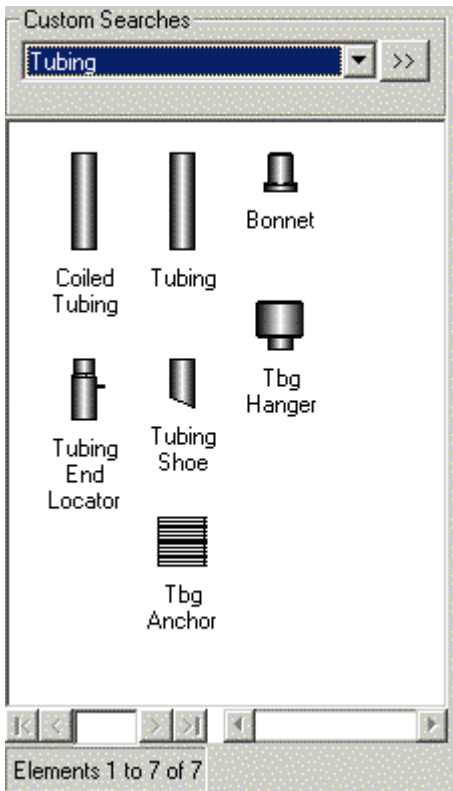
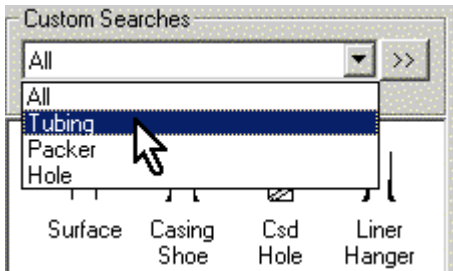
Working with the Element Library




The Library window can be resized in height and width. An Element can be selected by clicking on it in the Library window. It can then be dragged onto the Well Diagram.

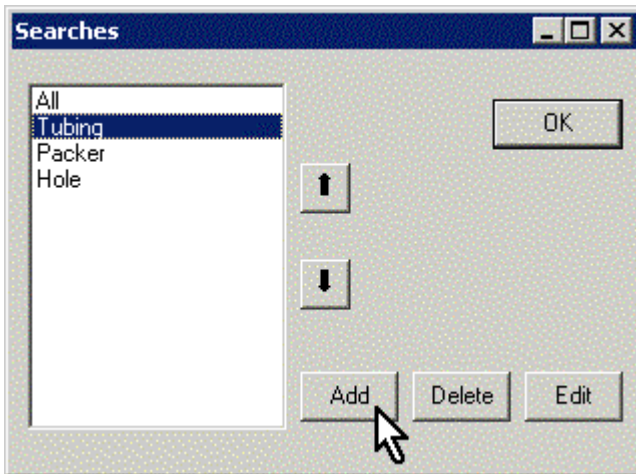
Searching the Element Library

Since there are many Elements in the Element Library, it is often necessary to create a custom Search to facilitate fast selection of a group of like Elements. Once these Searches are created, simply click on the Search drop down box at the top of the Element Library and select the required Search.

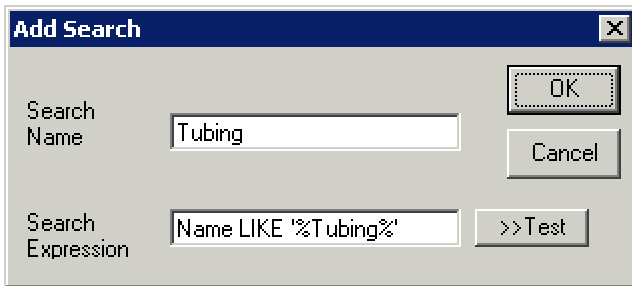


The Element Library window is now updated to show only those Elements which match the Search criteria. The Element Library window can be reset by selecting the “All” Search.

To create a custom Search, click the button to the right of the Search drop down box . The following window will open.



To create a Search based on the “Tubing” Search, click on “Tubing” then on the Add button.



In the “Add Search” window, you may now enter another Search name and edit the Search expression. To check the results of your Search, click the **>>Test** button. Click **OK** to save.

Examples of Search expressions are given below:

Wildcard character	Description	Example
%	Any string of zero or more characters.	Name LIKE '%Tubing%' finds all Elements with the word 'Tubing' anywhere in the Name parameter.
[]	Any single character within the specified range ([a-f]) or set ([abcdef]).	Name LIKE '[A-C]%' finds Elements beginning with any single character between A and C.

It is possible to combine searches, for example:

Name LIKE '%Tubing%' OR Name LIKE '%Casing%'

finds Elements with the name containing either "Tubing" or "Casing".

NOTE: the parameter "Name" is different from the parameter "ScreenName" which is the Element name that appears in the Element Library window.

Import/Export Elements with the Element Library

You may export some or all of the Elements in the Element Library to a StringView Library Transfer (.slt) file and also import Elements from another .slt file. This enables users to exchange their own custom Elements they have drawn.

Importing Elements

Right click on the Element Library and select **Import**. When you have chosen your .slt file, the Elements contained within it will be displayed in the import window. Either drag and drop individual Elements or click the **Import All** button.

Exporting Elements

There are two ways to populate the Elements in the export .slt file:

- Drag and drop Elements manually — right click on the Element Library and select **Export : Select Manually**.
- Export the current Library Search — right click on the Element Library and select **Export : Current Search**.

Elements may be removed from the export window by clicking on them and then clicking the **Remove** button. Elements may be added by dragging and dropping from the Element Library.

When you are happy with your selection of Elements, click **Export to File**.

CHAPTER 8

Special Techniques

Advanced Features

Properties

Preferences

Multiple Paths

Multiple Casings and Tube Strings

Junctions



Save as Template

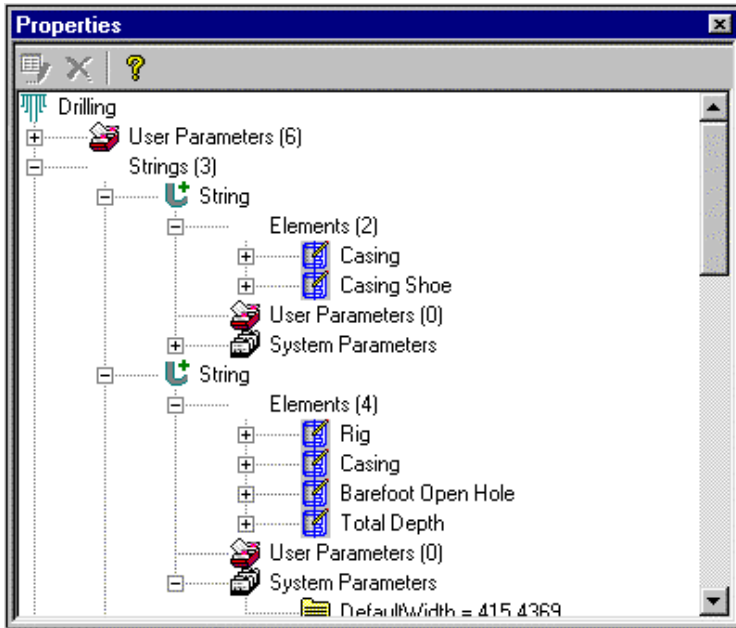
Advanced Features

StringView possesses many additional features enabling the user to customize and enhance the software and their Well Diagrams:

- Properties
- Preferences
- Multiple Paths
- Multiple Casings and Tubing Strings
- Junctions
- Save As Template

Properties

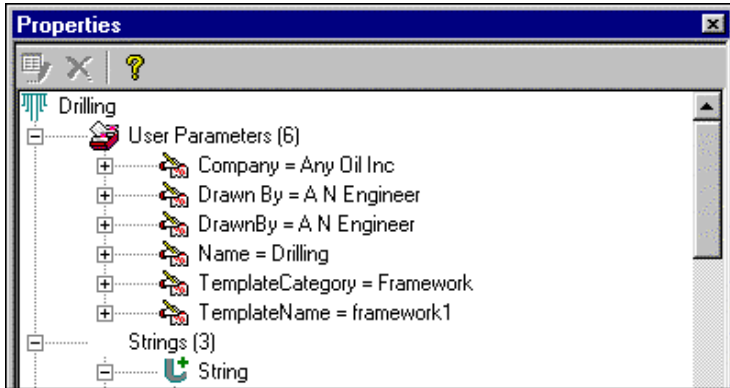
As you draw a Well Diagram the StringView software records every detail relating to it. These details can be found in the **Properties** window which is beneath the Element Library. Click on  to expand an entry, or  to collapse it.



User Parameters — Records the details entered during completion of the Well Wizard start-up procedure.

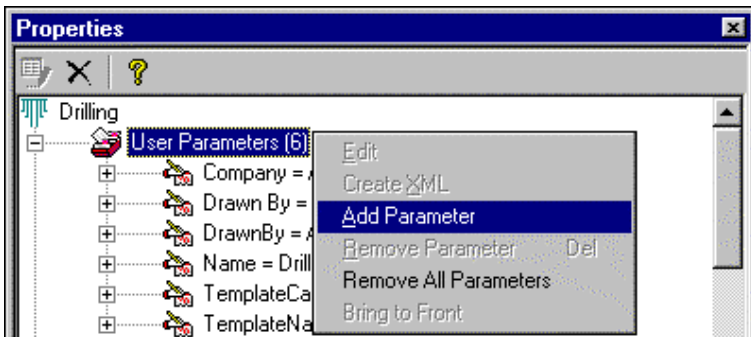
Default User Parameters

Company Drawn By Name	The three fields containing the Well details. These fields can be edited by selecting and right mouse clicking.
TemplateCategory TemplateName	Show the Template selected during the Well Wizard start-up procedure. These should not be edited.

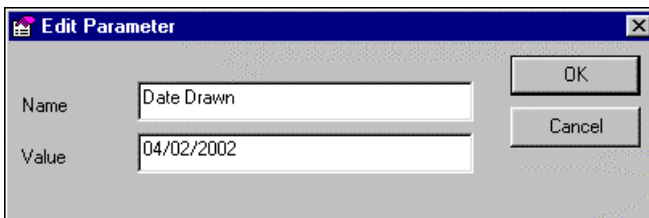


To edit the User Parameters, right click on the Parameter and select **Edit**. New values can then be entered.

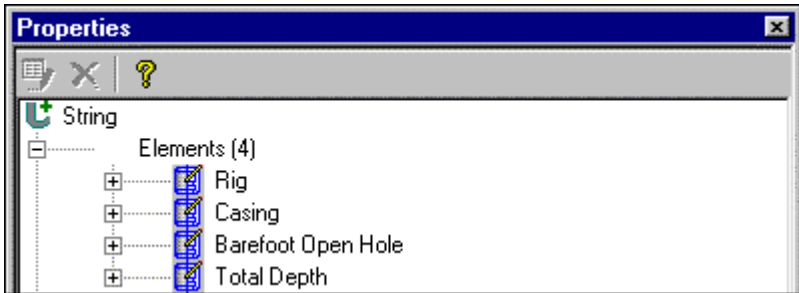
New User Parameters can be added as required by highlighting **User Parameters** and right mouse clicking. Select **Add Parameter**.



A box will appear in which you can add your own parameter name and value. For example, you may wish to add “Date Drawn”.



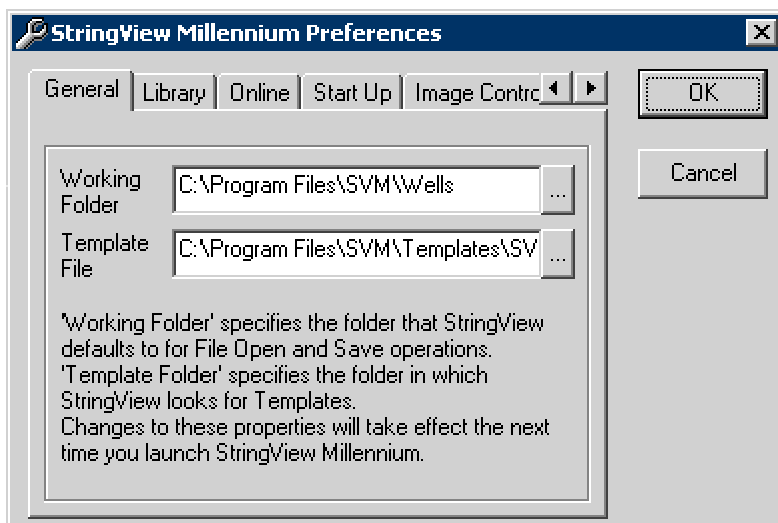
String Properties — Provides complete details of the type and make up of each String within the Well Diagram. Each Element is detailed and its parameters can be edited.



System Parameters and Paths — These parameters are set by the software and cannot be altered by the User.

Preferences

The Preferences window is opened by clicking on **Edit : Preferences**.



The tabs on the Preferences window are described below:

General — Defines the folders where Well Diagrams and Templates are stored in your computer. The folders can be changed. Changes take effect the next time the program is launched.

Library — Defines the default library loaded by StringView at start up. Changes take effect the next time the library is opened.

Online — Enables your logon details to be saved locally, thereby saving time when you update StringView.

Start Up — Defines how StringView starts up. You can select between the Well Wizard, an empty Well Diagram or an existing File.


Image Control — Defines the resolution of images copied to the clipboard. StringView measures the capabilities of your computer and will reduce the resolution if resources are low.

Proxy Server Settings — Some users connect to the internet through a Proxy Server. You have the option to specify proxy server location and authentication credentials.

Toolbar — Select the showing of captions on the toolbar to aid button recognition.

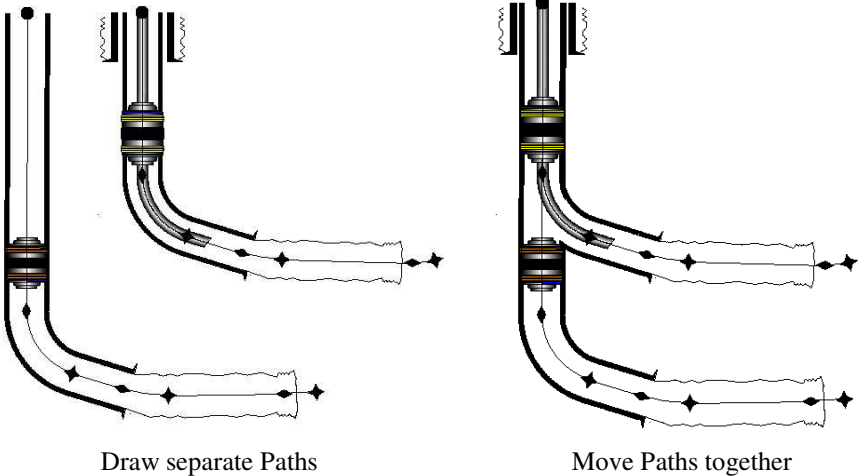
Multiple Paths

StringView is capable of drawing Well Diagrams with multiple Paths. This is especially useful for the compilation of multi-laterals.

To add extra Paths to a Well Diagram click on  (or **Build : Add Path**).

There are two way in which you can draw multi-laterals, either:

- Draw each String separately and then move their Paths together.

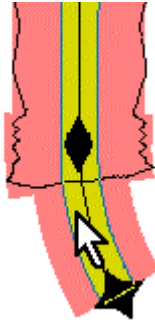


NOTE: To move a String, Click and Hold on the **top** circle of the Path.

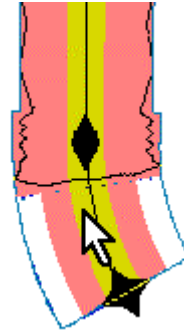
Or,

- Overlay the Paths before adding Elements. This technique is more difficult to manipulate, but does give the advantage of being easier to align Elements within each String.

NOTE: Successive mouse clicks at the empty bottom end of the String has the effect of selecting the Strings which pass through that point in rotation. This is useful if you are having difficulty in selecting a particular String.



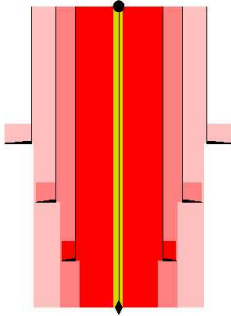
Tubing String selected




Casing String selected

Multiple Casings and Tubing Strings

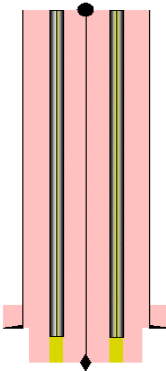
Many Wells incorporate multiple casings. StringView is capable of producing Well Diagrams showing any number of casings.




To add multiple casings to a Path

- Select the Path (single click on section end circle, diamond or star).
- Click  or **Build : Add Empty String : Casing**.

Some Wells comprise two or more Tubing Strings. StringView has the facility to attach more than one Tubing String to the same Path.



To add multiple Tubing Strings to a Path

- Select the Path (single click on section end circle, diamond or star).
- Click  or **Build : Add Empty String : Tubing**.

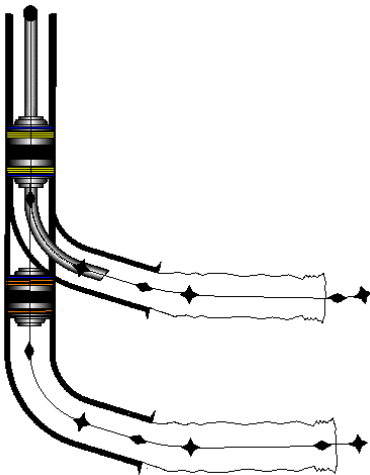
NOTE: The Tubing Strings can be moved horizontally relative to the Path by clicking and dragging. Successive clicks at the end of the String will select the Tubing or Casing String.

NOTE: By right mouse clicking on a selected String you can move it to the front of the Well Diagram. This is useful when you have a number of Strings overlaying each other.

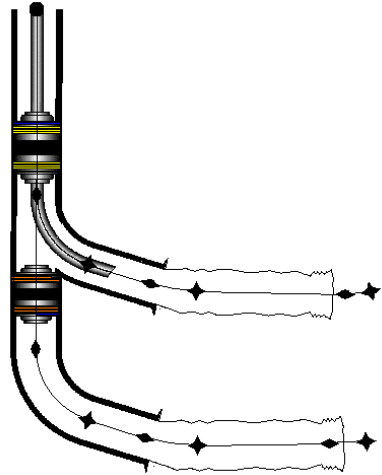
Junctions

Multi-lateral Wells often incorporate a window within the side of the Casing to allow Tubing to pass through. StringView provides a Junction facility to visually represent the milled hole in a casing.

Compare the two diagrams below to see how Junctions improve the image.



Without Junctions



With Junctions

Junctions are formed by selecting the Casing Elements that intersect and clicking



(View : As Junction).

NOTE: In the example shown above you will need to activate the Junction facility on both Casing String Elements, where they intersect each other.

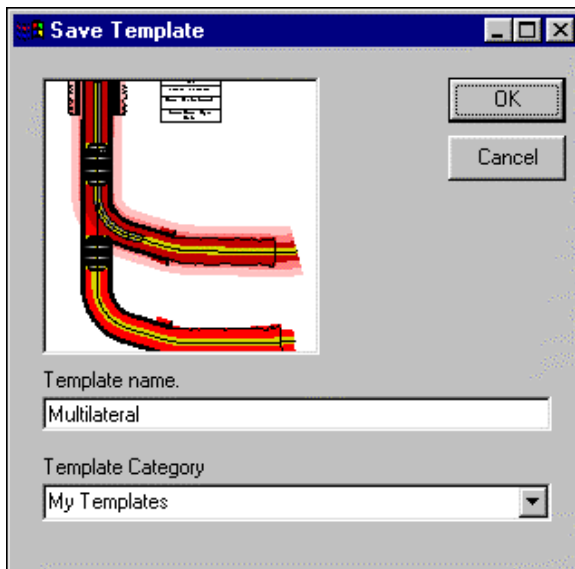
Save as Template

Well Diagrams can be saved as Templates, which allow you to duplicate a Well Diagram. This is especially useful if you need to draw a number of different Well Diagrams which differ only slightly.

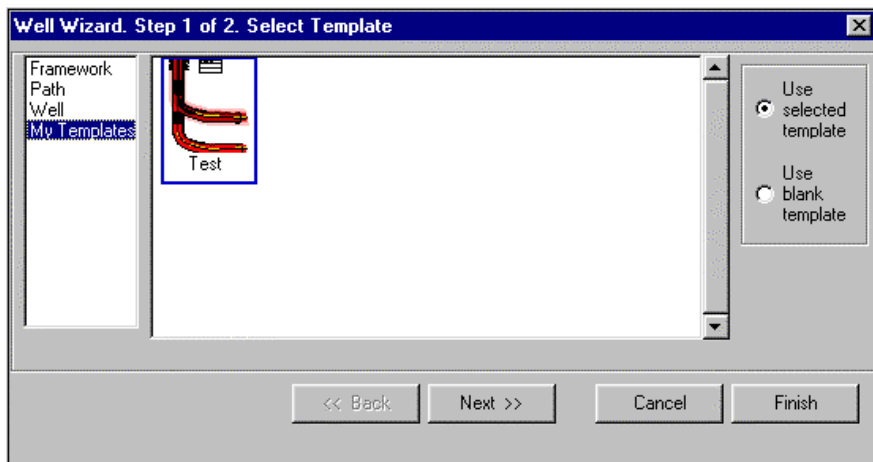
Think of a Template as a Master Copy of a drawing, allowing you to take carbon copies, which can then be modified.

To create a Template

- Click **File : Save As Template**.
- Enter your **Template** name
- Select the **My Templates** category or type in a new category name. This name will appear on the Well Wizard window when creating a new Well.
- Click **OK**.



Having saved your Template you can create copies of it by using the Well Wizard and selecting from the **My Templates** category.



CHAPTER 9

Customizing StringView

Creating a Company Image

Create Your Own Layout Template

Create Your Own Elements

The flexible way in which StringView works makes it ideal for customizing to your own requirements.

Creating a Company Image

In order to create a company image, the style for the Well Diagram layout can be drawn to give the relevant “distinguishing style” for the company. Each of these items can be saved as a separate file which can be saved and distributed to other StringView users.

Create Your Own Layout Template

Well Diagrams can be saved as **Templates**. Templates allow you to duplicate a Well Diagram. This is especially useful if you need to draw a number of different Well Diagrams which have only slight differences between each.

Think of a Template as a Master Copy of a drawing, allowing you to take carbon copies, which can then be modified.

To learn how to create a Template, see “Save As Template” in Chapter 8, Special Techniques.

Create Your Own Elements

You can create your own Elements and add them to the Element Library using the Element Editor. See Chapter 10, “Element Editor”.

CHAPTER 10

Element Editor

Introduction

Starting the Element Editor

Using the Element Editor

Introduction

StringView is packaged with an extensive Element Library which contains many **Elements** representing the more commonly used components found within an oil well. On occasions, you may wish to alter an existing **Element** or create a new one. The Element Editor has a set of extensive drawing tools for you to use for this purpose.

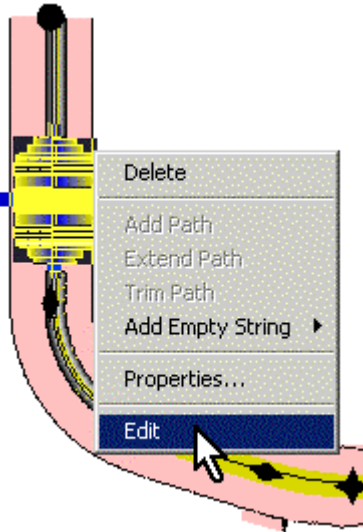
You may edit an existing Element in situ in a Well Diagram or in the Element Library. If editing from the Element Library, you have three choices:

- New — Create a new Element from scratch.
- Current — Edit the current version of the Element in the Element Library.
- Copy of current — Create a copy of the selected Element for editing.

Starting the Element Editor

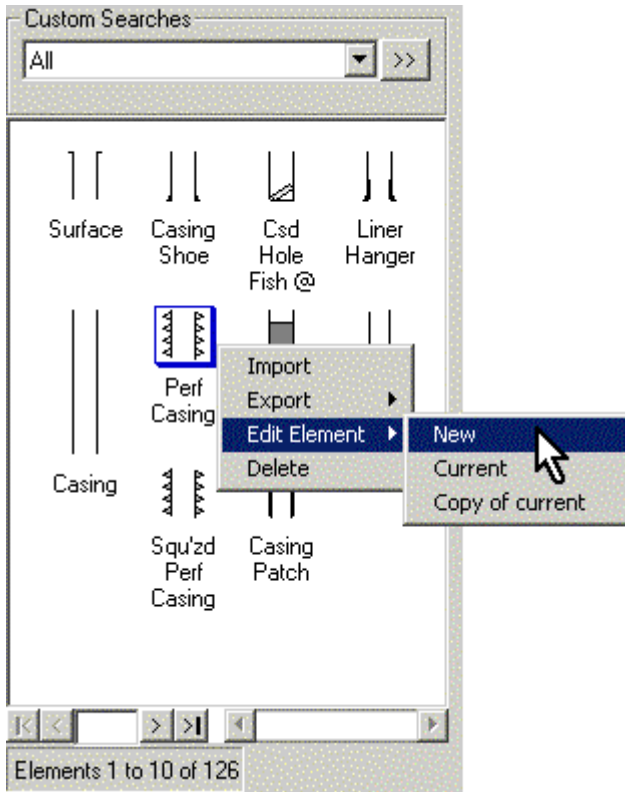
Editing an Element in a Well

To edit an Element in a Well, right click on the Element and click **Edit**. Any changes will only be reflected in this one Element. The Element Library will remain unaltered.



Creating a new Element

To create a new blank Element in the Element Library, right click on the required Element and select **Edit Element : New**. The Element Editor will open with a blank window to work in.

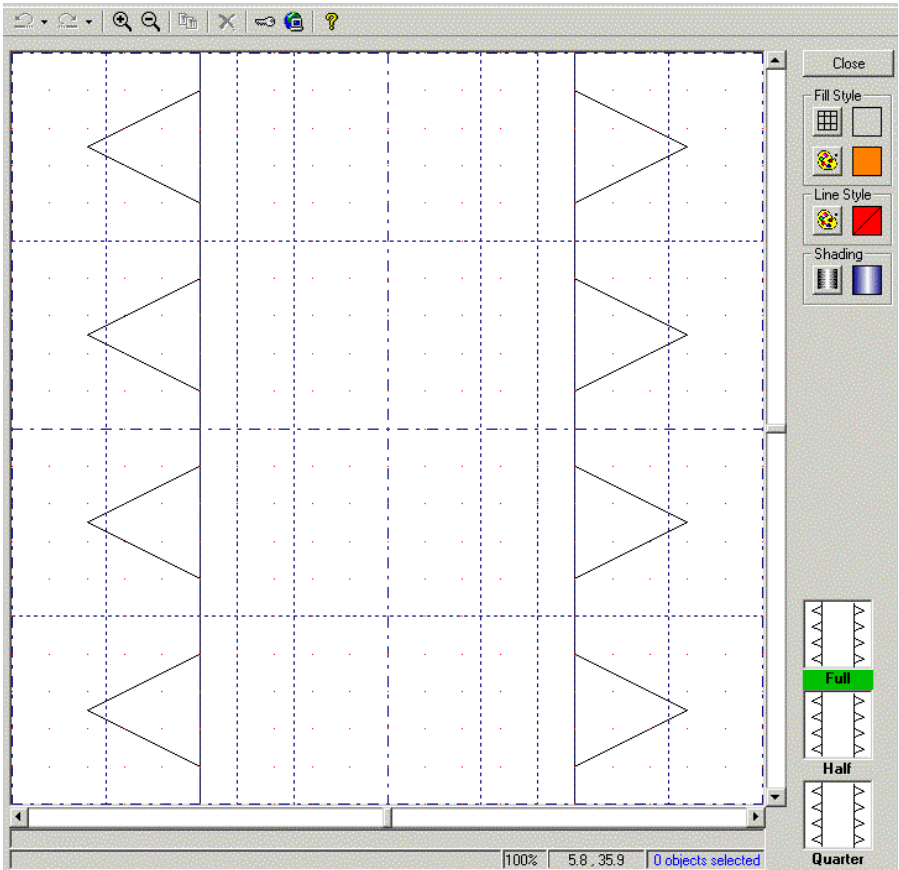


Editing an existing Element in the Element Library

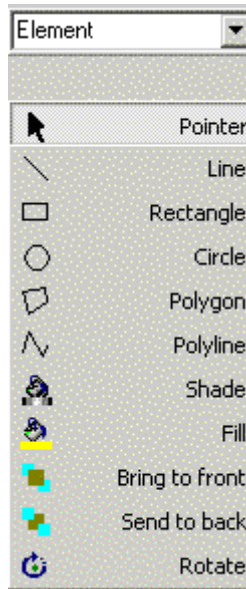
To edit an Element in the Element Library, right click on the required Element and select **Edit Element : Current** from the above menu. Changes will be saved in the Library.

Copying an existing Element in the Element Library

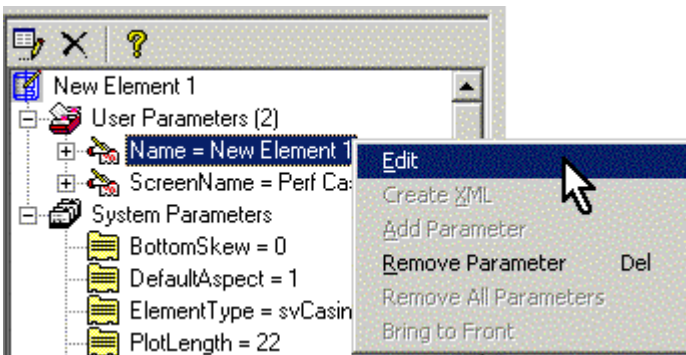
Alternatively, you can create an Element in the Element Library from a copy of an existing Element, leaving the original unaltered. To do this, select **Edit Element : Copy of current** from the above menu. The Element Editor will open with selected Element in the working window.



When the Element Editor is open, the menus and the toolbars change to reflect the new commands available in this mode.



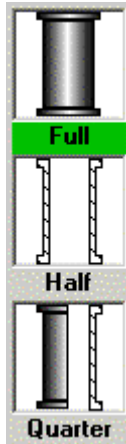
When you have finished editing the Element, click the **Close** button to return to the Well. If you have created a new Element, it will be placed at the end of the Element Library. You may now rename it by clicking on it in the Element Library and right-clicking in the Parameters window on the User Parameter “ScreenName” and selecting **Edit**.



Using the Element Editor

Element Views






There are three Elements Views available: Full; Half and Quarter. They are shown as thumbnails on the right of the Element Editor window, with the current view being edited highlighted.



Double click on the appropriate thumbnail to change the current view or click **View : Element**. Thumbnails may be copied from one view to another by dragging. This gives a quick method of creating a template for the next view when creating new Elements.

Drawing Tools

There are five basic drawing tools available on the Element Editor toolbar:


- Line 
- Rectangle 
- Circle 
- Polygon 
- Polyline 

Click one of these buttons and then click on the start and finish points on the screen. In the case of polygons and polylines, click on each of the nodes and then right click and select **Close** or **Finish** respectively.

The tool is retained for further use until you press **ESC** or right click and **Cancel**.

Selecting Element objects

Element objects already drawn may be selected in four ways:

- Click inside an enclosed object (e.g. a rectangle) or click on a line (hold the **SHIFT** key to add to/remove from already selected objects).
- Using the pointer tool , drag a box around or through an object or several objects (hold the **SHIFT** key to add to/remove from already selected objects).
- Click anywhere in the editing window and press **TAB** to cycle through objects (or **SHIFT TAB** to reverse direction). This is useful to select objects that are hard to select otherwise, for example, by being behind others.
- Click **View : Select object** and select the required objects from the list.

To select all Element objects, click **Edit : Select All (CTRL + A)**. To deselect all objects, click in an empty area of the editing window. If more than one object is selected, a bounding box is drawn round them in red.

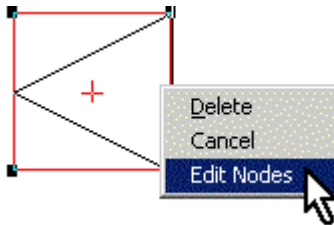
Editing Element objects

Selected Element objects may be moved by dragging to their new position, or resized by dragging on one of the handles. If the **SHIFT** key is held down while resizing an object or group of objects, the aspect ratio is preserved. An Element may be nudged in steps by holding down the **CTRL** key and pressing the arrow keys. The step size is set in **Edit : Preferences**.

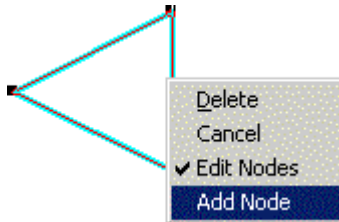
To delete selected Element objects, simply press the **Delete** key.

Editing Nodes

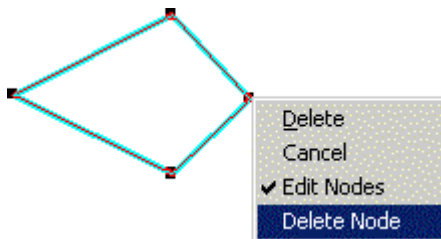
The individual nodes of polygons and polylines may be moved, added to or removed. Select one of these objects, right click and select **Edit Nodes**.




The object is then outlined in blue. To add a node, right click on a line and select **Add Node**. (If this menu option is not visible, try clicking on the inner side of the line.)

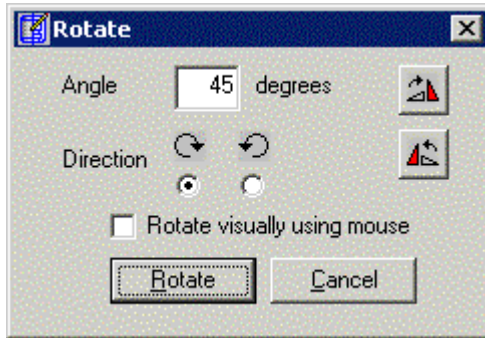




To remove a node, right click on a node and select **Delete Node**.



Rotating objects

Select the object(s) you wish to rotate and click the **Rotate** button . The rotate window opens.



You may enter an angle and click **Rotate**, click the  button to rotate clockwise by 90 degrees or click the  button to rotate anti-clockwise by 90 degrees. In these cases the object will rotate about its centre, or the centre of a selection of objects. Alternatively, you can check **Rotate visually using mouse**, click **Rotate** and then click on the centre of rotation. The object(s) will then rotate with the mouse movement until you click to fix them.

Mirroring objects

Select the object(s) you wish to mirror and click **Modify : Mirror**. There are three options:

- Freestyle — You may draw your own Mirror line.
- Horizontal — Mirror horizontally about the centre line.
- Vertical — Mirror vertically about the horizontal centre line.

In all cases, you then get the option to retain a copy of the original as well as the mirrored object(s).

Binding and Intersecting lines

Select two lines and then click **Modify : Bind** or **Modify : Intersect**. In the case of Bind, the end of the second line selected will be moved to the end of the first line. With Intersect, the two lines are extended until they meet.

Grouping and Ungrouping

A number of lines can be grouped together to form a polygon or polyline. Select at least three lines for a polygon, or at least two lines for a polyline and then click **Modify : Group as : Polygon/Polyline**. If the lines do not meet, they will be joined using successive Binds (see above).

To break a polygon or polyline into its component lines, select the object and click **Modify : UnGroup**.

Object Snap

Selected objects may be snapped to the four edges of the Element area or centred on the centre line. Click **Modify : Object Snap** and then the required snap type.

Element object styles

Element objects have a number of styles which affect their appearance:

- Fill Style — Hatch and colour
- Line Style — Colour
- Shading — Select or create from Shading Library

Hatch Styles

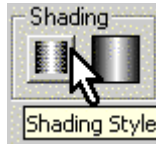
There are six hatch styles to choose from, plus solid and transparent. Select the required object(s) and then click the **Fill Style** button on the right of the editor window and click one of the hatch types. You can also define a coloured hatch by clicking the **Fill Colour** button and selecting a colour from the colour palette.



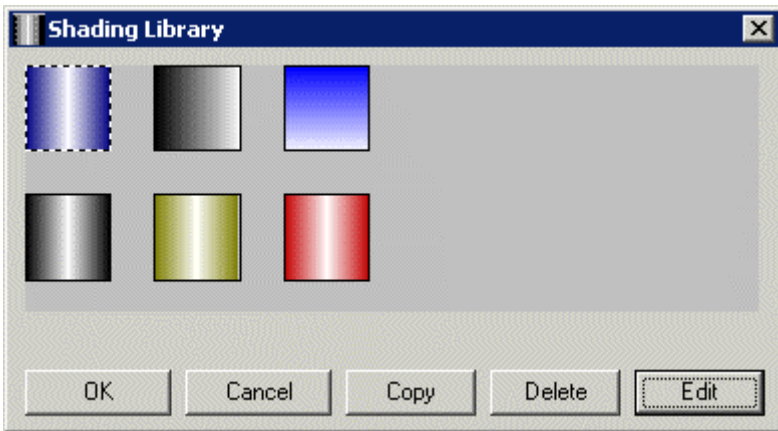
Line Styles

Click the **Line Colour** button to select a line colour from the colour palette.

Shade Styles



The **Shading Style** button opens the Shading Library from which you can choose a shading style. To create a new shading style, select a style and click **Copy**. To edit an existing shading style, select a style and click **Edit**.





Aspect Ratio

Element objects have a default Aspect Ratio (height/width) of 1. click on **Edit : Aspect Ratio** to change this if, for example, you wish to create a long thin Element. Of course, all Elements may still be resized in the Well Diagram window.



Filling enclosed areas

You may fill an enclosed area with a hatch style (includes solid fill) or a shade style.

If you wish to fill a single rectangle, circle or polygon:

- Deselect all objects and set the default hatch or shade style.
- Select the rectangle, circle or polygon
- Click either the hatch fill button  or the shade fill button .

If you wish to fill an enclosed area that is not a single object:



- Deselect all objects and set the default hatch or shade style.
- Click either the hatch fill button  or the shade fill button .
- Click in the area you wish to fill.

Copying Element objects

Selected Element objects may be copied using Copy, Cut and Paste techniques. Click **Edit : Copy (CTRL + C)** and then **Edit : Paste (CTRL + V)**. You can paste into a different Element or a different Element View if you wish.

If you click **Edit : Cut (CTRL + X)** instead of Copy, the original is removed.

Element layout order


Element objects may be moved in front of or behind each using the **Bring to Front**  and **Send to Back**  buttons. Objects may also be moved by one layer at a time using **Edit : Order : Bring nearer** or **Edit : Order : Send further**.

Guide lines, grids and handles

Elements should be designed to look like the tool they are representing. It is important to remember that Elements will be drawn one above the other on the Well Diagram. Consequently, the Elements should be drawn to align with one another vertically. This can be achieved by using the Guide lines. Guide lines may be turned on or off by clicking **View : Guide lines**.

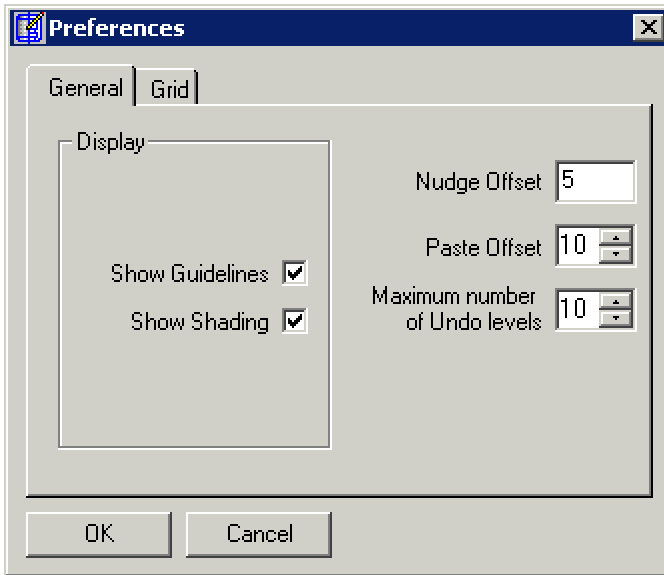
A grid of dots is shown to assist positioning Elements. The showing and spacing is controlled by clicking **View : Grid** and then selecting the required option. To set the default options for the grid, click on **Edit : Preferences** (see below).

You can snap to the grid in vertical and/or horizontal directions by clicking **Assist : Snap to grid**. Again, the default options for Snap to grid are in **Edit : Preferences**.

Element object handles can easily be snapped together by clicking **Assist : Snap to Object Handle**. When this option is set, handles may be dragged into the snap region, indicated by a change of cursor to . The handles will then snap together, giving a clean join between objects.

Preferences

Click **Edit : Preferences** to change the default settings for the Element Editor.



On the **General** tab there are check boxes for the display of guide lines and shading. The Nudge Offset is the step size when nudging objects using the **CTRL** key and the arrow keys. The Paste Offset is the displacement of successive pasted objects from the original.

On the **Grid** tab you can control the grid size and snap to grid operations.

CHAPTER 11

Online Features

Updates Online

Internet Connections

Updates Online

To ensure that you are running the most up to date code, benefiting from all bug fixes and feature enhancements to date, select **Online : Update** from the menu. A check is made to see whether you are running the latest code. If newer versions of any modules are found on the web, you will have the option to download these newer modules before the application runs any further.

Internet Connections

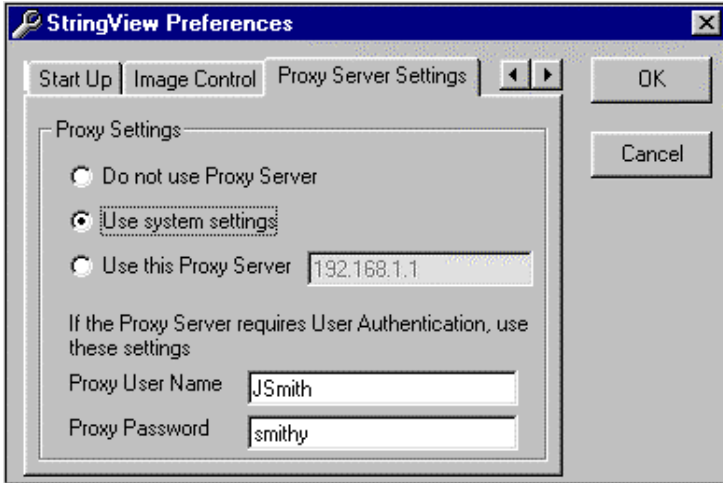
When you choose to update StringView, the program needs briefly to connect to the internet. The reasons for this are twofold.

Firstly, to check if any of the StringView program files are newer than those currently installed on your computer.

Secondly, your personal credentials (username and password) are checked. This establishes you as a registered StringView user.

Some users connect to the internet through a Proxy Server. These are typically users connected to a corporate LAN. Some Proxy Servers require users to authenticate (log in) before internet access is allowed.

Support for Proxy Authentication has been added. Users now have the option to specify proxy server location and authentication credentials via the 'Proxy Server Settings' tab of the StringView 'Edit : Preferences' dialogue.



Now, when StringView is updated for the first time, the program will try to connect to the internet using your system's default settings. If this connection fails, the Proxy Server Settings dialogue will be displayed.

Entries in the Proxy Server Settings dialogue have the following significance.

- **Do not use Proxy Server.** Use this setting if you know that your computer has a **direct** connection to the internet. If you use this setting, all other settings on this tab are ignored.
- **Use System Settings.** If you have a Microsoft browser installed on your machine, using this setting will instruct StringView to use the same Proxy Server Settings as the browser. If the specified proxy server requests authentication, the values in the fields 'Proxy User Name' and 'Proxy Password' are submitted.
- **Use this Proxy Server.** This setting enables you to specify a proxy server for StringView to use. If the specified proxy server requests authentication, the values in the **fields** 'Proxy User Name' and 'Proxy Password' are submitted.

NOTE: If you do not know what your Proxy User Name and Password are, you should contact your system administrator. They are not the same as your StringView Username and Password.